

REMARKS/ARGUMENTS

Favorable reconsideration of this application, in light of the present amendments and following discussion, is respectfully requested.

Claims 1-4, 6, and 8-37 are pending. Claims 1, 6, 8, 17, 19, 23, and 24 are amended. Claims 29-37 are newly added. Support for the amendment to Claim 1 can be found in Fig. 1, for example inasmuch as this figure shows one example of a heat transfer member (135) disposed between a heating means (132) and a filter (133). Support for the amendment to Claim 6 can be found in Figs. 1 and 3B, for example and further in the published application in numbered paragraph [0106], for example.¹ Support for the amendment to Claim 8 can be found in numbered paragraphs [0104] and [0105], for example. Support for the amendment to Claim 17 can be found in Fig. 1, for example. Support for the amendment to Claim 19 can be found in Fig. 1, for example. Support for the amendment to Claim 23 can be found in Fig. 1, for example. Support for the amendment to Claim 24 can be found in Fig. 1 and in numbered paragraphs [0103] and [0104], for example. Support for newly added dependent Claims 29, 31, 32, and 34 can be found in Fig. 1, for example. Support for newly added Claims 30 and 33 can be found in numbered paragraph [0184] and Fig. 16, for example. Support for newly added Claims 35 and 36 can be found in Fig. 1, for example. Support for newly added Claim 37 can be found in Fig. 1, for example. No new matter is added.

In the outstanding Office Action, Claims 1-4, 17-23, 25, and 27 were rejected under 35 U.S.C. § 102(b) as anticipated by Naoki et al. (U.S. Patent No. 6,074,487, herein "Naoki '487"). Claims 6, 8-10, 12, 14-16, 24, 26, and 28 were rejected under 35 U.S.C. § 102(b) as anticipated by Sun et al. (U.S. Patent No. 6,409,839, herein "Sun '839"). Claims 6, 24, 26, and 28 were rejected under 35 U.S.C. § 102(b) as anticipated by Zhao et al. (U.S. Patent Pub. 2003/0033978, herein "Zhao '978"). Claim 11 was rejected under 35 U.S.C. § 103(a) as

¹ Support for this feature was also identified and discussed during the personal interview.

obvious over Sun '839 in view of Zhao '978. Claims 12 and 13 were rejected under 35 U.S.C. § 103(a) as obvious over Zhao '978 in view of Naoki '487.

At the outset, Applicants note with appreciation the courtesy of a personal interview granted by Examiner Keath Chen and Supervisory Patent Examiner Michael Cleveland. In combination with the Interview Summary provided by Examiner Chen, the substance of the personal interview is substantially summarized below in accordance with MPEP § 713.04.

Regarding the rejection of Claims 1-4, 17-23, 25, and 27 as anticipated by Naoki '487, that rejection is respectfully traversed by the present response.

Amended independent Claim 1 recites, in part:

a filter member covering the gas outlet and configured to allow the gas material to pass therethrough, and
a heat transfer member configured to transfer heat of the heating portion to the filter member,
wherein the heating portion and the filter member are separated from each other, and the heat transfer member is disposed between the heating portion and the filter member and supports the filter member.

Accordingly, the heat transfer member is disposed between the heating portion and the filter member and supports the filter member.

The outstanding Office Action points to the porous heating plate (216) of Naoki for a filter member. The outstanding Office Action relies on the side heater (217) and top heater (218) for the feature of a heat transfer member. However, as discussed during the personal interview, the side heater (217) and top heater (218) do not **support** the porous heating plate (216). Rather, the porous heating plate is supported by the small rectangular blocks shown in Fig. 13 disposed just above the O-ring embedded in the bottom cover (204). Accordingly, Naoki '487 does not suggest a heating portion and filter member separated from each other and a heat transfer member disposed between the heating portion and the filter member that supports the filter member as recited in amended independent Claim 1.

Thus, Applicants respectfully submit that the rejection of independent Claim 1 and Claims 2-4 and 25 depending therefrom as anticipated by Naoki '487 is overcome.

Additionally, newly added dependent Claim 35 recites a shield plate covering the filter member disposed on a side farther from a gas outlet than is disposed the filter member. As discussed during the personal interview, the above-noted feature further patentably distinguishes over Naoki '487 inasmuch as Naoki '487 directly exposes the porous heating plate (216), which is relied on in the outstanding Office Action for a filter, to the vibrating plate (208) upon which the liquid introducing pipe (214) introduces liquid to be vaporized.

Regarding the rejection of Claims 17-23 and 27 as anticipated by Naoki '487, that rejection is respectfully traversed by the present response.

Amended independent Claim 17 recites, in part:

a plate member covering the gas outlet and a wall around the gas outlet, with a gap therebetween to form a communication clearance, such that a gas passage connecting the vaporizing chamber to the gas outlet is formed between the plate member and the wall,
a plurality of columns disposed in the gas passage to serve as a fluid baffle and to support the plate member, and
a heater configured to heat the gas material flowing through the gas passage.

Accordingly, a plurality of columns disposed in the gas passage serve as a fluid baffle and **support the plate member.**

As discussed during the personal interview, the outstanding Office Action relies on the pair of thermal couples (221) as columns disposed in the gas passage and serving as a baffle.² However, as further discussed during the personal interview, these thermal couples do not "support" a plate member as a person of ordinary skill in the art would construe the term "support." Nor does the unlabeled center section disposed in the middle of the top portion of the porous heating plate (216) support the top heater (218) upon which the

² Outstanding Office Action, page 5.

outstanding Office Action relies for a heating plate. Rather, as discussed during the personal interview, the porous heating plate (216) and the top heater (218) are supported by the ring or blocks (as shown in cross-section) resting upon the O-ring and bottom cover (204).

Accordingly, Applicants respectfully submit that Naoki '487 fails to suggest all of the features recited in amended independent Claim 1 or Claims 18-23 and 27 depending therefrom.

Additionally as discussed during the personal interview, newly added dependent Claim 36 recites that a shield plate is disposed farther from the gas outlet than is the filter member. Applicants respectfully submit that Naoki '487 fails to suggest the above-noted feature as discussed during the personal interview.

Regarding the rejection of Claims 6, 8-10, 12, 14-16, 24, 26, and 28 as anticipated by Sun '839, that rejection is respectfully traversed by the present response.

Amended independent Claim 6 recites, in part:

a filter member covering the gas outlet and configured to allow the gas material to pass therethrough, and
a shield plate covering the filter member on a side farther from the gas outlet,
wherein the filter member and the shield plate extend in a direction crossing a straight line connecting the spray portion and the gas outlet, and the shield plate is separated from the filter member and covers the filter member face to face.

Accordingly, the field member and shield plate extend in a direction crossing a straight line connecting the spray portion and gas outlet. The shield plate is separated from the filter member and covers the filter member face-to-face.

As discussed during the personal interview, Sun '839 does not suggest a shield plate that covers a filter member face-to-face as recited in amended independent Claim 6. Rather, the block (150), relied on in the outstanding Office Action for a shield plate, is disposed well above and does not face a face of the ceramic gas filter (160), which is relied on in the outstanding Office Action for a filter. The block (150) and filter (160) are cylindrically shaped and face radially outward from parallel axes and are offset from each other in a

direction parallel to the axes. Accordingly, Applicants respectfully submit that, as discussed during the personal interview, the rejection of Claim 6 as anticipated by Sun '839 is overcome.

Claims 8, 9, 10, 12, 14, 15, 16, and 26 each depend from amended independent Claim 6 and patentably distinguish over Sun '839 for at least the reasons discussed above regarding amended independent Claim 6.

Regarding the rejection of Claims 24 and 28 as anticipated by Sun '839, that rejection is respectfully traversed by the present response.

Amended independent Claim 24 recites, in part:

a filter member, including a first planar surface,
covering the gas outlet and configured to allow the gas material
to pass therethrough,
a heat transfer member configured to transfer heat of the
heating portion to the filter member, and
a shield plate, including a second planar surface facing
the first planar surface, covering the filter member and located
farther from the gas outlet than the filter member is located,
wherein the shield plate is separated from the filter
member and fixed to the heat transfer member along with the
filter member via a spacer interposed between the shield plate
and the filter member, such that the shield plate is set in
thermal contact with the heating portion through the heat
transfer member and the spacer to receive heat from the heating
portion.

Accordingly, the filter member includes a **first planar surface**. The shield plate includes a **second planar surface facing the first planar surface**, a spacer is interposed between the shield plate and the filter member such that the shield plate is set in thermal contact with the heating portion through the heat transfer member and the spacer.

As discussed during the personal interview, Sun '839 describes a cylindrical block (150) disposed well above the gas filter (160). Sun '839 does not suggest that the block (150) has a planar face facing a planar face of the gas filter (160). Rather, the gas filter is a porous pipe with an end block (160A) disposed on one end. **The end block (160A) does not**

correlate to a planar face of a filter. Rather, the end block (160A) is a solid piece of material as shown in cross-section in Fig. 11. Accordingly, as discussed during the personal interview, amended independent Claim 24 and Claim 28 depending therefrom patentably distinguish over Sun '839 for at least the reasons discussed above.

Regarding the rejection of Claims 6, 24, 26, and 28 as anticipated by Zhao '978, that rejection is respectfully traversed by the present response.

Amended independent Claim 6 recites that the filter member and shield plate extend in a direction crossing a straight line connecting the spray portion and the gas outlet, and the shield plate is separated from the filter member and covers the filter member face-to-face.

As discussed during the personal interview, Zhao '978 describes a generally cylindrical container (166) with a porous distribution tube (177) disposed in its center. The porous distribution tube (177) is surrounded by a second porous tube (178). The concentric tubes (177) and (178) are surrounded by a group of seven smaller cylindrical filters (180) as best shown in Fig. 16. As further discussed during the personal interview, the two tubes (177) and (178) are disposed parallel with a straight line connecting the spray portion (170) and gas outlet (184). Accordingly, Applicants respectfully submit that Zhao '978 fails to suggest that a filter member and shield plate extend in a direction crossing a straight line connecting a spray portion and gas outlet as recited in amended independent Claim 6.

Claim 26 depends from amended independent Claim 6 and patentably distinguishes over Zhao '978 for at least the same reasons as amended independent Claim 6 does.

Regarding the rejection of independent Claim 24 and dependent Claim 28 as anticipated by Zhao '978, that rejection is respectfully traversed by the present response.

Amended independent Claim 24 recites, in part:

a filter member, including a first planar surface,
covering the gas outlet and configured to allow the gas material
to pass therethrough,

a heat transfer member configured to transfer heat of the heating portion to the filter member, and
a shield plate, including a second planar surface facing the first planar surface, covering the filter member and located farther from the gas outlet than the filter member is located, wherein the shield plate is separated from the filter member and fixed to the heat transfer member along with the filter member via a spacer interposed between the shield plate and the filter member, such that the shield plate is set in thermal contact with the heating portion through the heat transfer member and the spacer to receive heat from the heating portion.

Accordingly, the filter member includes a first planar surface. The shield plate includes a second planar surface. The second planar surface faces the first planar surface of the filter member.

As discussed during the personal interview, Zhao '978 describes a generally cylindrical container (166) with concentric tubes disposed within. Zhao '978 caps the ends of the tubes with the plates (188) and (186). Thus, Zhao '978 **derives a specific benefit from the tubular and concentric nature of its container**. The porous distribution tube (177) and second porous tube (178) are relied on in the outstanding Office Action for a shield plate.³ The filters (180) are relied on in the outstanding Office Action for a filter.⁴ As further discussed during the personal interview, none of these components includes a **planar face**. Accordingly, Applicants respectfully submit that Zhao '978 fails to suggest a filter member including a first planar surface and a shield plate including a second planar surface facing the first planar surface. Thus, Applicants respectfully submit that amended independent Claim 24 and Claim 28 depending therefrom patentably distinguish over Zhao '978 for at least the reasons discussed above.

Regarding the rejection of Claim 11 as obvious over Sun '839 in view of Zhao '978, Applicants respectfully submit that no proper combination of Sun '839 and Zhao '978 would

³ Outstanding Office Action, page 9, eight lines from the bottom of the page.

⁴ Outstanding Office Action, page 9.

include all of the features recited in amended independent Claim 6, from which dependent Claim 11 depends. Rather, as discussed above, both Sun '839 and Zhao '978 fail to teach or suggest a filter member and shield plate extending in a direction crossing a straight line connecting a spray portion and gas outlet, and the shield plate is separated from the filter and covers the filter member face-to-face. Accordingly, Applicants respectfully submit that Claim 11 patentably distinguishes over any proper combination of Sun '839 and Zhao '978 for at least the same reasons as amended independent Claim 6.

Regarding the rejection of Claims 12 and 13 as obvious over Zhao '978 and Naoki '487, that rejection is respectfully traversed by the present response.

The outstanding Office Action relies on Naoki '487 for the feature of a control member configured to control temperature of a heating portion and for the feature of a filter member with a temperature set at substantially the same temperature as a heating portion. However, as discussed during the personal interview, Zhao '978 does not suggest that the shield plate and filter member are disposed face-to-face with each other and in fact derives a specific benefit from not disposing these components face-to-face. Rather, Zhao '978 benefits from a generally cylindrical and concentric arrangement of its distributor tube (177), porous second tube (178) and filters (180). Accordingly, Applicants respectfully submit that no reasonable combination of Zhao '978 and Naoki '487 would include all of the features of amended independent Claim 6 or Claims 12 and 13 depending therefrom. Accordingly, Applicants respectfully submit that the rejection of Claims 12 and 13 as obvious over Zhao '978 in view of Naoki '487 is overcome.

Newly added Claims 29-37 each depend from one of amended independent Claims 1, 6 and 24 and patentably distinguish over any proper combination of the cited references for at least the same reasons as amended independent Claims 1, 6, and 24 do.

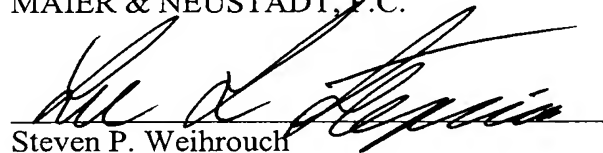
Additionally, newly added dependent Claim 37 depends from amended independent Claim 24 and recites that the heat transfer member includes a portion in thermal contact with the filter member at a position other than a peripheral portion.

For the foregoing reasons, it is respectfully submitted that this application is now in condition for allowance. A Notice of Allowance for Claims 1-4, 6, and 8-37 is earnestly solicited.

Should Examiner Chen deem that any further action is necessary to place this application in even better form for allowance, as discussed during the personal interview, Examiner Chen is encouraged to contact Applicants' undersigned representative at the below-listed telephone number.

Respectfully submitted,

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